

3 Deep Learning Techniques for Creation of DeepFakes

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3.1 INTRODUCTION

The neoteric advancement and improvement in Artificial Intelligence (AI) have given birth to DFs. This exponential growth has seen various complex functions performed by a single technique, especially in Machine Learning (ML). ML techniques are long in the tooth; it is viable to create state-of-the-art content, apart from general functions such as predicting. The algorithms to create the synthetic media utilize the algorithms of DL, a subset of ML, works on the concept of unsupervised learning algorithm neural networks, also called artificial neural networks (ANNs).

A neural network functions like the neurons of our brain. They caught wind in the 1980s, but due to the lack of data and processing power, they couldn't be implemented until the recent developments. Similar to how an axon delivers the message to other neurons while the role of the dendritic tree is to collect input from the neurons, the neural network has a complex process with multiple layers of interconnected units. The layers are connected through synapses. Each unit has a certain weightage. Perceptron shares the signal to the activation function. The activation function helps to identify patterns in the multiplex data to give a correct output. It is the deciding